Claims: I claim as my invention:

1. An acoustic waveguide for propagating sound radiation from an acoustic transducer into a sound field wherein one or more sections along the length of said waveguide have bounding surfaces that approximate coordinates of the coordinate systems, Elliptic Cylinder and Prolate Spheroidal.

2. The waveguide of claim 1 wherein;

   the first waveguide section is Elliptic Cylinder and the second is Prolate Spheroidal.

3. The waveguide of claim 1 wherein;

   the mouth termination has a radius to the baffle.

4. The waveguide of claim 2 wherein;

   the mouth termination has a radius to the baffle.

5. An acoustic waveguide for propagating sound radiation from an acoustic transducer into a sound field wherein the length of said waveguide has a bounding surface that approximates coordinates of the coordinate system Elliptic Cylinder.

6. The waveguide of claim 5 wherein;

   the mouth termination has a radius to the baffle.